IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants: Patrick Johannes Blom, et al.

Title: LABEL, CONTAINER COMPRISING SAID LABEL AND METHOD OF WASHING SUCH A CONTAINER

Docket No.: 30992US1

PRELIMINARY AMENDMENT

Assistant Commissioner for Patents
Box Patent Application
Washington, D.C. 20231

Sir:

Please amend the application prior to its examination as follows.

IN THE SPECIFICATION:

In the specification, page 1, between lines 1 and 2, please insert the following centered heading and new paragraph:

-- CROSS REFERENCE TO RELATED APPLICATION

This application is a divisional application of Application Serial No. 09/155,031, filed September 17, 1998, which is a Section 371 of PCT/NL97/00139 filed March 19, 1997.--

On page 14 lines 27-37 and page 15 lines 1-10, please delete the paragraph, and insert therefore a new paragraph as follows:

--The label application process will now be described in the order of progression on the basis of this figure. Station 60 shows the step of surface treatment and temperature stabilization by means of a pre-heating treatment using a flame heater or burner 60'. For adhesion of two polymeric materials to occur, many factors must be considered such as cleanliness, pressure, temperature, contact time, surface roughness, movement during bonding and adhesive film thickness. An additional important consideration is the critical surface tension. The commonly accepted method of measuring the critical surface tension is with a Dyne solution, which is well known. For most adhesive applications the critical surface tension of polyethylene is 31 Ergs/cm^2 (Dynes per centimeter). A series of tests were performed which demonstrated for best adhesion of the adhesive previously described to the polyethylene surface, a treatment level of 60 to 70 Ergs/cm^2 (Dynes per centimeter) was

necessary. Further testing of commercially available equipment showed that flame treatment optimized both capital cost, operating cost and time required to achieve the required critical surface treatment.--

On page 30 lines 17 -27 and page 31 lines 1-18, please delete the paragraph and insert therefore a new paragraph as follows:

--The optimum combination of durability and washability of the labels according to the invention is at least partly due to the permeability of the label for the soaking solution. A sample of the transfer layer of the same type as tested in the water uptake/release test of a thickness of 12.7 μm (microns) was tested for water vapour transmission. A 25 millilitre glass container with a 15.9 millilitre orifice was cleaned with acetone and filled with approximately 10 millilitres of deionized water. The orifice area of the container was heated to approximately 47.8°C (118°F) and a circle segment of the transfer layer was firmly applied using a small piece of silicone rubber as a pressure pad. After the container/label had cooled, the backing film was gently removed. The sample preparation was completed by adding a wax coating (0.001 g across the 1.99 cm^2 surface) and let air dry. A second glass container of the same dimensions as described above was cleaned thoroughly with acetone and filled with 10 ml of deionized water. The orifice area of the sample was heated as well. This sample was used as the control sample. The completed samples were then weighted various intervals over a 26.6 hour time period. The water vapour transmission rate over the total time of the experiment equated to 568.75 g/m^2 in a 24 hour time period at 22.2°C at 46% relative humidity. It was found that a "steady state" water vapour transmission rate was not achieved until approximately 28 minutes from time 0. When using the "steady state" data after 28 minutes from time 0, the water vapour transmission rate was found to be about 525 g/m^2 in 24 hours.--

IN THE CLAIMS:

Before claim 1, delete "CLAIMS" and insert therefore --WHAT IS CLAIMED IS:--.

Please cancel claims 1-24 without prejudice.

Please add new claims 25-37 as follows.

25. Container comprising on at least one surface thereof an ink-only label at least consisting of an adhesive layer, an ink-only image layer and optionally a protective layer,

wherein the said ink-only label, when applied to a substrate, has a water permeability coefficient, as defined herein, which is sufficient to enable fast removal of the label from the substrate with water or an aqueous alkaline solution, without destructive treatment of the said substrate.

26. Container according to claim 25, wherein a cover layer is applied over the ink-only label which cover layer comprises an acrylic wax.

27. Container according to claim 25, comprising an application surface for receiving the label which application surface has a surface tension of at least 60 Ergs/cm^2.

28. Container according to claim 25, the label on the container having a pencil hardness between 1N and 7N in its dry state and a pencil hardness less than O.5N after a soaking time between 1 and 15 minutes in water of 20°C.

29. Container according to claim 25, wherein the label on the container has a water uptake value after 3 hours greater than 1 and below 75 g/m^2, preferably about 5 g/m^2.

30. Container according to claim 25, the container having been selected from the group consisting of plastic crates, plastic bottles and glass bottles.

31. Process for applying a label to a container, said process comprising providing a transfer label, said transfer label comprising a backing layer and a transfer layer which is releasably attached to the backing layer, said transfer layer comprising an ink-only label, said ink-only label at least consisting of an adhesive layer, an ink-only image layer and optionally a protective layer, wherein the said ink-only label, when applied to a substrate, has a water permeability coefficient, as defined herein, which is sufficient to enable fast removal of the label from the substrate with water or an aqueous alkaline solution, without destructive treatment of the said substrate, said process further comprising the step of transferring the ink-only label to at least one surface of the container.

32. Process according to claim 31, wherein the cover layer is attached upon or

after attaching the ink-only label to the container.

33. Process according to claim 31, wherein the label, optionally in combination with the cover layer, has been heat-treated after application to the container at a temperature between 40°C and 100°C.

34. Method of washing a container according to claim 25, comprising the steps of:

- placing the container in an aqueous soaking solution during a soaking time not longer than 10 min, preferably not longer than 1 minute, the temperature of the soaking solution being below 100°C, preferably below 70°C, while causing turbulence in the soaking solution such that the label breaks up,

- pumping the soaking solution through a sieve and collecting the piece of the label on the sieve,

- periodically, preferably continuously, cleaning the sieve by collection and removal of the label pieces.

35. Method according to claim 34, wherein the openings of the sieve are between 1 mm and 10 mm, preferably about 2 mm.

36. Method according to claim 34, comprising the step of impingement of water jets on the container before and/or after placing the container in the soaking solution.

37. Method according to claim 34, wherein the soaking solution comprises between 0.1 and 5% by weight, preferably O.5% NaOH.

REMARKS

Claims 1-24 have been cancelled and new claims 25-37 have been added so it is clear what claims are to be examined. Claims 25-37 correspond to Claims 13-25 which were restricted out in the parent case. The specification is being amended as it was in the parent case.

If any fees are required by this communication which are not covered by an enclosed check, please charge such fees to our Deposit Account No. 16-0820, Order No. 30992US1.

Respectfully submitted,

PEARNE & GORDON LLP

By John P. Murtaugh
John P. Murtaugh, Reg. No. 34226

526 Superior Avenue East, Suite 1200
Cleveland, Ohio 44114-1484
(216) 579-1700

Date: 2-28-02

Changes in Specification are as shown:

Page 14 lines 27-37 and page 15 lines 1-10:

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